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ABSTRACT

This is the fourth in a series of four reports describing a study of 1,614 junior high school mathematics and English students and 69 of their teachers that was undertaken to discover the effects of different teaching behaviors on cognitive and affective student outcomes. This booklet is the working manual used for coder training and includes information on the general procedure and organization of coding, coding of academic response opportunities, types of response opportunity, subject matter checklists, student initiated questions and comments, classroom format, peer tutor identification, dyadic teacher-student contacts, student created contacts, teacher afforded contacts, behavior related contacts, student behaviors, and social contacts as well as a sample copy of the coding sheet. (TJ)

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Texas Junior High School Study

Final Report of Process-Outcome Relationships

Manual for Low Inference Behavioral Coding System

Appendix C

R&D Report No. 4061
(COET No. 78-1)

April, 1978

Research and Development Center for Teacher Education
The University of Texas at Austin

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JUNIOR HIGH SCHOOL STUDY: CODING MANUAL

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R&D Report No. 4014

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Research and Development Center for Teacher Education
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INTRODUCTION

This is a working manual used for coder training and decision-making in a naturalistic field study conducted in seventh and eighth grade junior high school classrooms in English and mathematics. The goal of the study is to identify and systematically measure presage and particularly process variables and then investigate their relationships (linear or non-linear) with student outcome measures (both cognitive and affective). Classroom observations are being conducted during the 1974-1975 school year. The coding system presented in the present manual includes all of the low inference coding done during classroom observations, as well as a few high inference items. Numerous other high inference ratings will be made at the end of the school year, and presage data will be collected through teacher interviews and questionnaires.

This study is an expansion and extension of a previous process-product study conducted at the second and third grade levels (Brophy and Evertson, 1973). In that study a similar coding system was used, although students were not assigned unique identification numbers allowing separate data to be kept on individual students, as in the present study. Both coding systems were based originally on the Brophy-Good Dyadic Interaction Coding System (Brophy and Good, 1970), although many additional features include coding of the teacher's handling of behavioral management problems, in which the coding categories and underlying theory are based on the work of Kounin (1970). Also included are several new categories introduced to take into account systematic differences in classroom context (size of group, type of lesson, public versus private contact, etc.), as well as several codes specifically

indicated as appropriate for classroom variables considered important for junior high school math and English classes.

Readers should note that the enclosed manual is a "working" manual designed for use by coders involved in the actual data collection and for this project. Thus, the manual does not present a more generalized system intended for use as is by other investigators using it for other purposes. It is an extremely complex system designed specifically for the study in question, and it contains many facets that would be unnecessary or inappropriate for a different investigation, even if that investigation were carried on in junior high school English and math classes. Readers interested in issues concerning general approaches to classroom coding rather than only the specific system presented in this manual should consult several previous coding manuals and papers addressed to the problem of classroom field research (Brophy and Evertson, 1973; Brophy and Good, 1970; Brophy, Note 1; Brophy, King, Evertson, Baum, Crawford, Mahaffey, and Sherman, Note 2; and Brophy, Mahaffey, Greenhalgh, Ogden, and Selig, Note 3).

Footnotes

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School _____ Date __/__/__ Start _____ Page # _____

Teacher _____ M__F__ Observer _____ Stop _____ Of _____

Gen'l Class _____ Sm Grp _____ Sm Grp Mem # _____

Total Teacher Control Time _____ Absences _____

ACADEMIC RESPONSE OPPORTUNITIES

STUDENT #		QUEST				SELECTION					ANSWER				SUS FDBK					TERM FDBK				
M	F	PROCESS	PROMPT	CHORAL	OPINION	PREPARE	ENN PAT	NN PAT	VV TAL	CA OL	+-	DN KR	+-		RESPONSE	SUSTAIN	NQ	NON ACC	INTEG	GAIN	VKA	CAL	ORG	

SCHOOL _____ DATE: ____/____/____ START _____ PAGE ____

TEACHER _____ M___F___ OBSERVER _____ STOP _____ OF ____

GEN'L CLASS _____ SMALL # GRP. _____ MEMBER #'s _____

Behavior List

0 - Not observed
1 - Ind. Typ. Inapp.
2 - Socializing
3 - Late
4 - Disrupt*
5 - Sass/Defy*
6 - Vagg*
7 - Pagg*
8 - Leave*
9 - Contraband*
10 - Bait*
11 - Sleep*
12 - _____ (other)

(* indicates a critical behavior)

STUDENT CREATED CONTACTS

STUDENT # M	STUDENT # F	WORK CONT	WORK PRCD	WORK +	WORK -	Inaud BRIEF	Inaud LONG	Aud DELAY	Aud FDBK	Aud PCSS	PERSONAL GRANT	PERSONAL DELAY	PERSONAL NGRNT

GENERAL PROCEDURE AND ORGANIZATION OF CODING

1. Target Student Selection

Initially, it was the intention of this study to code every contact with a number identifying the student involved. In light of the extensive scope of this study, however, it was felt that more accurate and complete data would be obtained by coding all interactions but requiring specific identities of only a smaller portion of the students in each class. To preserve the validity of the data, target students were selected by a random number table in order to get as unbiased a sample as possible.

2. Target Student Time Sheets

The time each target student is available for coding is noted on these sheets. Every student will have the same number of minutes available for coding (the class period length) unless he is (1) absent or (2) out of the room for more than 20 minutes. These two cases should be noted on the Target Student sheet--put absent beside his name if he is gone the entire period, or note the number of minutes he is in (ignore being gone for less than 20 minutes) if a target student is out of the room for part of the period. If all target students are present all period, write "55" by the first student's name and draw an arrow downward beneath it, indicating all the rest were also present for 55 minutes.

The identities of target students must not be publicized--be very careful to keep these lists shielded by another piece of paper, and if one must be discarded, the coder should keep it with him--<u>don't</u> put it in a waste basket at school, throw it on the floor, etc.

3. Fill in <u>all</u> the information at the top of the first sheet. This coding sheet is designed to be used in two different classroom contexts: general classroom and small groups. The coder will identify which one is being coded by a check

mark in the appropriate blank at the top of the page. There must be both a public response opportunity sheet and a dyadic contact sheet for each of these two classroom contexts. For example, at the beginning of the hour, the coder will fill in the top of one page of each type. If the teacher begins with a general class lesson, this is noted on both sheets by checking "general class." Later, if she switches to small groups, the coder must begin a new public response opportunity sheet and a new dyadic contact sheet, noting small group and the particular group members' numbers if they are target students, at the top of both pages. Even if there is no dyadic contact whatsoever, the page should be labeled in order to establish the completeness of the coding data; in this event, the coder should draw a heavy, diagonal line through the blank page in order to indicate (for the key-puncher) that it is empty.

4. When you fill up one section on a sheet, although the other sections may be blank, begin a new sheet for all sections. It is only necessary to begin a new sheet when you have completed a section on that page. If, for example, you filled the Academic Response Opportunity blanks, you should begin a new page for Academic Response Opportunities. It is not necessary to begin a new page for dyadic contacts at the same time. This is, of course, in contrast to #1, where a change in classroom context necessitates changing both sheets.

5. The subject content checklist, found at the top of the Academic Response Opportunity page, has been added in order to facilitate the writing of the criterion-based standardized test. This test will be administered to all students participating in the study at the end of the year. These two content checklists refer respectively to English and to math classes, and will serve as a specific measure of what teachers cover in their classes. They should be filled out at the end of each class period. Only the box on the first page need be filled out.

6. Do not code a class if a substitute or a student teacher is teaching, or if the class will be taking a full hour test. Code only if the regular teacher is conducting the class.

7. Total Teacher Control Time and Absences need only be filled out on the first page. The remainder of the information at the top of the sheet must be filled out on every page. Note absences only for the target students.

The essential thing to remember when coding is that you must divide and label your coding so that it will be meaningful and useful later. We must be able later to match your coding by time and activity with that of your partner in order to get the most accurate picture of what went on in the classroom and in order to establish inter-coder reliability at the beginning of the study.

8. The coder's relationship with the teacher:

a. You can share factual information from the coding sheet with a teacher who genuinely wants to know--but don't volunteer information and don't give any interpretations or value judgments.

b. Do not discuss a teacher with any other teacher.

c. If teachers ask about target students, explain that at first we did intend to study all students, but when we realized the difficulty of identifying so many students, we changed to a random sample.

The coder's relationship with students:

a. Keep busy so kids don't have a chance to talk to you.

b. Don't let kids see their names on the Target student lists.

ACADEMIC RESPONSE OPPORTUNITIES

The coding of response opportunities is perhaps the most difficult coding in the system, since several aspects of the interaction have to be coded and the sequence of events within the interaction must be maintained and indicated in the coding. To some extent the sequential aspects have already been designed into the coding sheet, since in going from left to right the coder takes up coding decisions in the order in which they tend to occur naturally. Each of these aspects of coding response opportunities is described in turn below, after clarification concerning the term "response opportunity."

Three key aspects characterize "response opportunities" as they are defined in this system: (a) they are public interactions between the teacher and only a single child at a time, but nevertheless meant for and monitored by the entire class or by the entire group operating at the moment; (b) they occur when the teacher asks a question demanding a verbal response from the child or when she asks the child to publicly respond to a question requiring a non-verbal response (such as indicating something on the board, pointing to the right letter or word, etc.); (c) only a single individual child makes the response (chorus or unison responses in which two or more children call out the answer simultaneously are not considered a "response opportunity"). Thus, a response opportunity involves a public attempt by an individual child to deal with a question posed by the teacher.

Other types of teacher-child interaction are not coded as "response opportunities" because they differ from the preceding definition in one or more ways. It is important for coding validity to bear in mind that "response opportunities" as used in this system are considered to be teacher afforded; it is assumed that the teacher explicitly or at least implicitly wants the child involved in the interaction to answer the question. Response opportunities are deliberate teacher

attempts to get a child to respond, or at least implicit teacher encouragement in situations where the child seeks out a response opportunity (see "call out" below). Response opportunities thus involve individual recognition of the child by the teacher. The previously mentioned situation in which two or more children call out an answer simultaneously is not considered a "response opportunity" because no individual child receives individual recognition or feedback. Even if only a single child calls out the answer, a response opportunity is coded only if the teacher responds to him in some way. Should the teacher ignore his answer altogether, it is not considered a response opportunity.

The public nature of the "response opportunity" distinguishes it from the various forms of student-created, teacher-afforded, and behavior related contacts. In the teacher-afforded and student-created work-related contacts, the teacher talks to the child about his own individual seat work. Teacher feedback here is "private," meant only for the child involved and not for the class as a whole. These contacts occur when individual children bring their work to the teacher to ask him about it or when the teacher goes around the room correcting work individually at each desk. It frequently happens that the teacher will question a child when dealing with him individually about his seat work. Such an event is coded under work-related dyadic contacts and is not considered a response opportunity, since the question is meant only for the particular child involved and is not a public question.

Response opportunities involve focal questions which, along with the answer given by the child and the ensuing feedback, form a natural unit. Each such question-answer-feedback segment constitutes a self-contained interaction sequence in its own right, easily separable from preceding or following units, even when they involve the same child.

Each response opportunity which is coded requires the checking of five separate bits of information: the identification of the student, the level of question asked, the type of response opportunity, the quality of the student's answer, and the nature of the teacher's feedback response. The last item to be coded (teacher's feedback) sometimes will be complex enough to include two or more categories of teacher feedback, so that some response opportunities will require six or more separate markings. Each type of feedback which is appropriate should be checked; none should be omitted.

STUDENT NUMBER

The child number columns are provided so that if the student is a target one, the coder can note a number designated on his seating chart, enter it under the M or F columns, and thereby identify a particular child who received a response opportunity being coded. If the student is not a target, then a check mark is placed in the appropriate M or F column. This is the first notation to be made in the academic response opportunity section. If a target student receives another response opportunity following the first one, the coder should rewrite his number on the next line, indicating that the child responding is the same one as in the previous response opportunity. Again, for non-target students, a check mark is used.

LEVEL OF QUESTION

The coder determines the level (or type) of question asked by the teacher. Level of question refers to the nature of the response demand made upon the student. Four levels are identified; process questions, product questions, choice questions, and opinion questions. These four levels refer only to questions about academic or school related content matters.

To determine the level of the response opportunity built into teacher questions, the coder must make two decisions: (a) he must decide that the question represents a public response opportunity, and (b) if it is an academic question, he must decide whether it is a process, product, choice, or opinion question. In contrast to the elementary classroom coding system, the academic response opportunity section includes opinion questions, where a teacher asks a student for his opinion about some aspect of the curriculum content, as well as process, product, and choice questions, where the teacher asks for some factual matter connected with the academic content of the lesson. Questions coded in this section require the student to explain something at length showing his grasp of the principles involved, to provide certain information in answering the question, to respond showing that he has certain knowledge of information, or to express his own opinion about some aspect of the curriculum content. The content of these questions deals with any aspect of curriculum which the school is attempting deliberately to teach the student. Level of question is coded by a check mark in the appropriate category.

Process Question

This is the most complex level of question, in which the student is required to explain something in a way that requires him to integrate facts or to show knowledge of their interrelationships. It most frequently is a "why?" or "how?" question, and usually requires an extended phrase or sentence for formulating an adequate response--single word answers are not usually sufficient. A process question requires the student to specify the cognitive and/or behavioral steps that must be gone through in order to solve a problem or come up with an answer.

Examples: What is the difference between levels and varieties of English usage?

Explain how changes in languages and speech patterns come about.

How can we distinguish between simple, conjunctive and embedding transformations?

Explain why if two sets are equal, they are also equivalent.

As always, the teacher's intent determines the coding. For example, the teacher may ask, "In estimating future payments, is it better to round up or down?" Ordinarily this would be coded as a product question demanding the answer "Up." However, if the question appears just after a lesson on accounting and estimating, the teacher had explained the process of estimating money to be paid out, and the student included in his answer elements such as that it is more prudent to round up than down in estimating expenditure, etc., then it would be coded as a process question. This example illustrates the procedure to be followed when in doubt in determining whether a question should be process versus product. If the teacher seems to be requiring a process answer, that is a long explanation of a complex sequence of events, process question should be coded. If on the other hand he seems to be satisfied with a simple short answer, product question would be coded.

Product Questions

Product questions seek a specific correct answer which can be expressed in a single word or short phrase. They do not involve the explanations built into process questions, and at the same time they do not provide the student with alternatives which include the correct answer, as in choice questions. Thus, the student must either know the answer and verbalize it or take a guess by encoding an answer on his own.

Examples: What is another word for "average?"
What name is given the answer in a division problem?
How many sides does an octagon have?
What are some characteristics of formal and informal English?
What is a topic sentence?
When was Jamestown founded?
Where was oil recently discovered?

Product questions usually begin with "who?", "what?", "when?", "where," "how much?", or "how many?". Many of the response opportunities will be coded as product questions if the student is asked to identify a letter, produce a sum or remainder, etc. While the student may have to go through many cognitive processes in order to arrive at the answer, the question itself as asked does not require him to verbalize these processes but only to produce the answer. So long as this is true the question is a product question, and the response demand on the student is less than it is for a process question, since less is required of the student and since the possibility remains that he might guess the answer without knowing the process that the teacher wants him to know.

Choice Questions

In the choice question the student does not have to produce a substantive response but may instead simply choose one of two or more implied or expressed alternatives. Included are yes-no questions, either-or questions, and questions which present more than two alternatives but which make it clear that the correct answer is one of the alternatives presented. Choice questions are of interest because they tend to encourage guessing by maximizing the student's chances of producing correct answers (response products), even though he may lack the correct knowledge or skill (response process) that the teacher assumes to be

operating when students answer correctly. Choice questions involve a more limited response demand upon the student than do product questions, since unlike the latter they do not require the student to produce a substantive response on his own; the student knows that the correct answer is one of the alternatives the teacher presents in asking the question, and if he is disposed to guess he can make a response by indicating one of those alternatives. Occasionally a large number of alternatives will be present, as when the teacher asks the student to indicate or underline one particular letter of the alphabet (out of the 26). This nevertheless is still coded as a choice question because the student knows that the correct answer is one of the alternatives presented. When the alternatives are presented verbally, there are usually only two or three alternative categories of response.

Two criteria distinguish choice questions: (a) the question deals with academic content; (b) the teacher provides response alternatives, either verbally or by showing the student visual aids to look at in connection with the question, which include the correct answer among them (i.e., the correct answer is one of the alternatives presented).

Examples: Is this angle acute or obtuse?
Do all materials expand at the same rate on heating?
Look at the words on the board. Which ones begin with a sibilant consonant?

Coders should bear in mind that any question which is an either-or question or a yes-no question is coded as a choice question, regardless of the complexity of the content.

Examples: If I pour the water from this white dish into this test tube, will there be more water, less water, or just the same amount?
Are the lines of a rectangle equal and parallel, equal but not parallel, or parallel but not equal?
Which is better to put out a grease fire -- water or sand?

Although the preceding examples are apparently complex, it nevertheless remains possible for some students who do not understand the processes involved to be able to respond to the question, since the response alternatives are provided in the question itself. Thus should the student decide to respond rather than say that he doesn't know or ask for more information, he can respond by verbalizing one of the response alternatives back to the teacher.

Sometimes a question which would ordinarily be classified as a product question is coded as a choice question because of the immediately preceding events. The previous example, "What words start with a sibilant consonant?", for instance, would be classified as a choice question if the teacher had preceded it by calling the students' attention to concrete examples of sibilants (by writing them on the board, showing visual aid materials on which the words were printed). Another example occurred in the science lesson in which the teacher gave an extended presentation about how leaves could be classified according to size, shape, and color. She repeatedly compared pairs of leaves explaining that she was looking for similarities and differences in size, shape, and color. The repetitive nature of her presentation and the restriction of her language to the key words "size," "shape," and "color" led eventually to the isolation of these three words as a restricted set of alternatives to respond to the question "how are these two leaves different?" When she later began asking the students to compare leaves her questions were coded as <u>choice questions</u>, since she had identified and reinforced "size," "shape," and "color" as the response alternatives she had in mind and because she accepted with apparent satisfaction the responses of students who simply verbalized one of these key words without any additional material.

Opinion Questions

The opinion question asks the student to give his own personal opinion about some aspect of the curriculum content. It probably will occur most often in the English classes, and only rarely in math classes. In an English class, the teacher might ask a student to describe a certain character in a short story assigned to the class, and following the student's response, turn to another student and ask if he agrees with the characterization given by the first student. Her question to the second student would be coded as an opinion question. In a math class, the teacher may request a student to go to the board and solve a math problem. She may then turn to another student, particularly if the student at the board made a mistake, and ask that student if he agrees with the work on the board. Both of these would be coded as academic opinion questions. Sometimes the teacher will begin with a product or process question, and seeing that she isn't going to get an answer, will continue by asking various students what they think will happen, etc., so that the remainder of the questions will be coded as opinion questions.

When coding OPINION QUESTIONS, the observer should leave blank the categories on correctness of answers. Observers should draw a line through these categories.

TYPES OF RESPONSE OPPORTUNITY

(SELECTION)

Five types of response opportunities have been identified. The coder indicates which one the teacher utilizes in each academic response opportunity by placing a check mark in the blank underneath the type of response opportunity used.

Preselect-Pattern (PREPAT)

In the first type, the teacher has asked a question which has at least several correct answers. She goes around the room in a predictable order calling the student's name first, and then asks her question. This column on the coding sheet is labeled (PREPAT).

Preselect-Nonpattern (PRENPAT)

The second column differs from the first only in that the teacher is calling on students in an order which is not predictable. She still preselects the pupil and then poses her question however.

Non-Volunteer (NVOL)

In the third type, the teacher asks her question first, then she calls on a student who doesn't have his hand raised or a non-volunteer (NVOL). If the coder does not know if the selection was PREPAT or PRENPAT, code NVOL--this is a convention. NVOL is also coded after sustaining feedback.

Volunteer (VOL)

The fourth type of response opportunity involves the teacher's asking a question publicly and then calling on a student who does have his hand raised

(volunteer or VOL).

Call-Out (CALL)

The last situation is the call-out (CALL). Response opportunities created by students who call out answers to teachers' questions without waiting for permission to respond are coded in the call out column. The teacher creates the response opportunity by asking a public question, but one pupil calls out an answer to this question before he has a chance to indicate that a particular student should respond. This type of response opportunity is therefore student created, in that it was not the teacher's intent that the student answer the question. Besides those already mentioned, one additional consideration must be present before coders code a response opportunity under call out: the teacher must recognize the student's response and make some response to the student in reaction to it. Called out answers which are ignored by the teacher are not considered response opportunities and are not coded. A response opportunity coded as call out then, requires the following: (a) the teacher asks a public question; (b) the student calls out an answer to the question before the teacher has a chance to call on anyone to respond; (c) the teacher then turns his attention to the student who called out the answer and says something in response to him. The teacher's response to the pupil must contain feedback regarding his answer to the question; the interaction is not coded as a response opportunity under call out if the teacher confines his remarks to criticism of the student for calling out the answer. It is necessary, therefore, that the teacher make some feedback response to the student who calls out the answer.

Just as there may be confusion in distinguishing between questions directed to a non-volunteer and questions directed to a volunteer when the coder is unsure whether or not the pupil has raised his hand, there may also be confusion in distinguishing call outs if the coder is unsure whether or not the teacher made some indication to the pupil that he should answer the question. There is usually little problem when the teacher calls on the students by name, but some teachers will call on students by pointing at them or otherwise non-verbally indicating that they should make a response. Coders should be particularly alert with such teachers to pick up these less obvious cues given to students to signal their permission to respond. When the coder is not sure whether or not the teacher made such a signal, and therefore, is not sure whether or not to code a question to a volunteer (VOL) or a call out (CALL), the interaction should be coded as a volunteer (VOL). Similarly, when the coder is not sure whether the student selected had his hand up, volunteer (VOL) should be coded.

ANSWERS

After coding a student's identity, the type of question, and the selection pattern, the coder codes the student's answer into one of four categories: correct (+), incorrect (-), don't know (DK), and no response (NR). The teacher's intent is taken into account in determining the correctness of the pupil's response. Frequently, teachers may ask ambiguous questions which are answered correctly or mostly correctly from one point of view but which are treated as incorrect by the teacher, who was looking for a very specific answer. Thus it is the <u>teacher's perception</u> of the correctness of the pupil's response which is coded, not the coder's perception. This distinction is important because the next

variable coded is the teacher's feedback to the student's response, and this feedback is considered to be feedback to the student's answer as perceived by the teacher. Consequently, if the teacher reacts to a response as if it is wrong, it is coded as wrong even though another observer might consider it to be mostly or even completely correct.

Correct Answers (+)

If the pupil answers the teacher's question in a way that satisfies him, the answer is coded as correct. Determination of whether or not the teacher is satisfied with the answer does not necessarily require that the teacher positively affirm the answer or make some favorable response to it. Instead, the student's answer should be considered correct unless the teacher makes some positive action suggesting dissatisfaction with it (explicitly explains that the pupil's answer is incorrect or mostly incorrect, gives the "correct" answer, or asks someone else to answer the same question.)

Incorrect Answers (-)

Responses coded as incorrect answers are those in which the student's response is treated as simply wrong by the teacher, or, in the opinion of the coder, the teacher considers the answer mostly wrong. The teacher need not explicitly tell the student that he is wrong; he may indicate this indirectly by searching for the answer from someone else or by providing it himself. The coder must code these kinds of answers as wrong, as well as including in this category answers seen by the teacher as being mostly incorrect.

In addition to these two instances, if a student mumbles an answer to a teacher's question and is asked by the teacher to repeat his answer more loudly, the answer should be coded as incorrect. If the teacher wants the student to

repeat because she has heard his response but wants others to hear it, or wants to avoid allowing students to mumble responses, the student's answer is coded as incorrect. Any mumbled answer which apparently is an attempt to answer the question is treated as no response as long as it remains unintelligible. In contrast to the previous coding system, there is no part-right designation to code. In the junior high study it is necessary for the coder to make a decision that a student's answer is either mostly right or mostly wrong, and therefore code that mostly right or mostly wrong answer as being right or wrong.

Don't Know (DK)

This category is included in the coding system specifically for those instances when the student clearly does not answer the question which the teacher puts to him, and in effect, says so, or makes some non-verbal response indicating this.

To code DK, the child must have clearly indicated either verbally or by shrugging shoulders that he does not know the answer. Otherwise, code NR; mumbling is coded NR. The convention, therefore, is to keep the DK column clean.

No Response (NR)

No response is coded whenever the student remains silent or mumbles unintelligibly. If he does make an intelligible response to the question it must be coded as correct or incorrect.

On a rare occasion, the teacher may ask a two-part question which the student answers exactly half correctly, and half incorrectly. In this kind of situation, the teacher generally focuses on the incorrect answer in an effort to get it

corrected; therefore, the coder should code the student's answer as incorrect, even though it was half right. The teacher's concern being primarily with the wrong part of the answer determines the coding of this response.

To summarize: If the student attempts to answer the teacher's question, his answer is coded as correct or incorrect, depending on the teacher's reaction to it; this will include all answers seen as part correct, in which cases the coder makes the decision as to whether the decision was mostly correct or mostly incorrect and codes accordingly. If the student indicates that he is unable to answer, the response is coded as don't know (DK) or if he does not attempt to answer the question, it is coded as no response (NR).

FEEDBACK

The next five sections deal with the teacher's response to the student's answer.

SYMBOL	FEEDBACK REACTION
++	Praise (positive evaluation)
--	Criticism (negative evaluation)
NQ SUS	Sustains; the teacher asks the student a new question about the lesson.
REPT	The teacher repeats the question
SIMP	Simplifies; the teacher rephrases the question or gives a clue.
NON/AC	Non-academic question; the teacher asks a question the intention of which is to aid the student in answering a preceding academic question.
INTEG	Integrates; the teacher integrates or weaves student's response into his discussion or lecture.

SYMBOL	FEEDBACK REACTION
0	No feedback response; the teacher does not react to the pupil's answer.
PRCS	Process feedback
GIV ANS	Teacher gives correct answer (without getting into process)
ASK OTH	Teacher asks another pupil to give the answer
CALL	Call out (some other pupil calls out the answer before the first pupil responds to the question).

The first four feedback categories listed above, after praise and criticism, are designated as sustaining feedback, while the last five are called terminal feedback. This distinction is a key one in studying communication of teacher expectations. The categories of sustaining feedback include teacher behavior which prolongs the response opportunity by providing a second chance to deal with the same or related questions. Use of any of the sustaining feedback reactions is an index of the teacher's willingness to stick with the student until he can produce an acceptable answer. Terminal feedback, on the other hand, brings the response opportunity to a close. For a terminal feedback reaction, the teacher either gives the student the answer or sees that he gets it from someone else, doesn't react at all, or gives process feedback. In any case, he does not sustain the interaction and provide additional response opportunity. In between the two sections of sustaining and terminal feedback is a small, one item section called integrate (INTEG). This behavior is coded when the teacher takes a student's answer and weaves it into either another question to that same student or into the ongoing discussion and then aims his next response opportunity at a different student. Therefore the column INTEG is set off from sustaining and terminal

feedback because it can be used in conjunction with both types. When it is checked therefore, there will always be at least one other type of feedback, either terminal or sustaining, checked along with the column INTEG.

Praise (++)

Praise refers to the teacher's evaluative reactions which go beyond the level of simple affirmation by verbally complimenting the pupil ("Good," "Fine," "Wonderful," etc.) and/or by accompanying verbalization of positive feedback with expressions or gestures connoting excitement or warmth. Thus praise (++) is coded when the teacher does something more than merely indicate that the pupil has given a correct response. He communicates a positive evaluation or a warm personal reaction to the student and not merely an impersonal communication of information.

In order not to miss praise feedback, it is important here to code the intent of the teacher and the perception of the pupil in identifying praise. Praise may be coded when the teacher actually has only repeated the student's answer, but in a warm, accepting tone of voice. Praise may also take the form of being a surprise reaction to the quickness for instance of a student in working a problem. It is probable that, in the junior high study, we shall not hear a good deal of flowery, effusive language in praising students. Although this might be effective for very young children, by junior high age, it would only be embarrassing to the student. Therefore, praise will be more subtle but nonetheless present.

Criticism (--)

Criticism parallels praise in that it refers to negative teacher evaluative reactions that go beyond the level of simple negation by expressing anger or

personal criticism of the student in addition to indicating the incorrectness of his response. The category includes obvious verbal criticism, ("That's a stupid answer," "What's the matter with you?", "If you'd pay attention, maybe you'd get it right") and verbal negation which is accompanied by expressive or gestural communication of hostility, anger, disgust, or sheer frustration. In general, any verbal response which disparagingly refers to the pupil's intellectual ability or, more frequently, his motivation to do good work, is coded as criticism. Statements of latter type by the teacher may be factually true (i.e., the pupil may not have been paying attention) or may be unverifiable gratuitous rejection ("You just don't care."). Both are nevertheless coded as criticism, since this coding refers to the teacher's behavior per se and not to the activity or justification for his statements.

SUSTAINING FEEDBACK

Repeats Question (REPT)

This category and the two to follow comprise the categories of sustaining feedback, in which the teacher sustains the response opportunity and provides the student with a second chance to respond.

The first such reaction is when the teacher simply repeats the question. This will almost always occur when the student has made no response, although it may also occur at times in which he has given an incorrect response. In any case, if the teacher asks a question, waits some time without getting the correct answer, and then repeats the question to the same student, his feedback reaction is coded as repeats question (REPT). The teacher need not repeat the entire

question word for word in order to be coded in this category. Truncated versions of the original question and short probes to determine if the student can make any response to the original question, are both coded as repeats question. For example, to the original question "What color is this?" the following responses are all coded as repeats question: "What color?" "Well?" "Do you know?" "John?" (The latter said in a manner that communicates that the teacher is waiting for the student to respond to his original question).

In each of the variations mentioned above, the teacher is communicating that he is waiting for the pupil to respond to the original question and that he still wants him to respond if he can. The teacher does not change the question, as in the following categories, but merely repeats it or refers to it as it was asked previously.

Simplify (SIMP)

In this feedback reaction, (SIMP), the teacher sustains the response opportunity by rephrasing the question or giving the pupil a clue as to how to respond to it. The rephrasing of the question in this situation will be such as to simplify it, particularly in moving from a product question ("What color is this?") to a choice question ("Is it red or blue?"). Rather than rephrase the question in this manner, the teacher may provide a clue expressed as a declarative statement: "It's the same color as an apple." Three key considerations determine the coding of simplify in teacher feedback: (a) the teacher does not merely repeat the question as originally asked but embellishes it in some way to make it easier for the pupil to respond; (b) nevertheless, he is still seeking the same response as asked for in the original question. The latter condition

separates the present category from the category of new questions which follows, in which the teacher asks a new question which requires a different answer from the one asked originally; (c) Note that the sustaining feedback form "simplify" may only be checked after a wrong answer (-), a don't know (DK), or a no response (NR).

New Question, Sustains (NQ SUS)

The teacher asks a new question when he requires an answer that is different from the original question, although it may be closely related. A question requiring a different answer is coded as sustain (NQ SUS). Thus, to the original question, "What kind of clause is this?", questions which elicit the same answer ("Is it dependent or independent?", "Is it dependent?") are coded as simplify. Questions which seek to elicit a different answer are coded as sustain (SUS). ("And this one, what type is it?")

There are three criteria required to code sustaining feedback. The first is that the previous answer must have been answered correctly by the same student. In addition, the next question must require a new answer, and third, the new question must deal with the subject matter of the class' lesson at that point. It must be academic in nature; if it is not, the way it will be dealt with will be explained in the next section.

Non-academic Question (NON/AC)

The category non-academic question (NON/AC), is provided as a form of sustaining feedback, Whenever the teacher asks an academic question of a certain student, the student indicates in some way that he is unable to answer

or answers it incorrectly, and the teacher than rejoins with a non-academic question designed to be helpful, i.e., to redirect the student to the proper problem on the page, etc., code NON/AC. If the teacher's question (response) is sarcastic or disparaging, code it as a wrong answer and criticism. Therefore, the coder will first code NON/AC and then wait to see if an academic question follows--which requires coding REPT, SIMP, or NQ/SUS. If this does happen, double code accordingly; if she terminates, the coding line ends with NON/AC.

The occurrence of sustaining feedback (repeats question, rephrase or clue, or new question) presents a special coding problem because all these types of feedback give the student a new response opportunity. This new response opportunity must then be coded for level of question, quality of answer, and additional feedback from the teacher. At the same time, the fact that it is a follow up to an original response opportunity rather than a wholly new response opportunity must be maintained in the coding system. This is accomplished by skipping down to the next row whenever sustaining feedback is coded, thereby bringing a close to the coding of the original response opportunity and beginning the coding for the follow up response opportunity. On the next row, the level of question, the quality of the pupil's answer, and the nature of the teacher's further feedback is coded. Follow-up response opportunities occurring due to sustaining feedback in reaction to the original response opportunities are coded for type of response opportunity (which would be coded non-volunteer (NVOL) in all cases of sustaining feedback), level of question, quality of student's answer, and type of teacher feedback. Other than the special conditions requiring skipping to a new row when sustaining feedback occurs, the coding of teacher's feedback reaction simply involves noting the appearance of new codable feedback categories.

Note also that two or more occurences of the same type of sustaining feedback (repeats question, simplify, or new question) may occur in succession and be coded separately. Thus a teacher might repeat the original question (or make some attempt to get the pupil to answer it) two or three times rather than just once. In such a situation, each repetition of the original question is coded, so long as there is some time in between which amounts to a new response opportunity being extended to the student. However, redundant repetition of the question ("Well, do you know?") is coded as only a single repetition since no time for an opportunity to respond is allowed between parts of the question. When such time is allowed ("Well? . . . Do you know?"), two separate repetitions of the question are coded.

Integrate (INTEG)

Integrate should be coded as a form of feedback any time when the teacher uses the student's response in her ongoing lecture, questioning or discussion. He may use one student's answer to build her next question, or he may use the student's answer and discuss and elaborate on it before continuing to question. It should be noted that the column INTEG is set off both from the sustaining and from the terminal feedback categories because it may occur in conjunction with either type of feedback. At any rate, when the coder checks integrate, he will also have checked at least one other category under sustaining or terminal feedback.

The remaining categories deal with terminal feedback, that form of feedback with which the teacher ends his contact or his response opportunity with one pupil and moves on.

TERMINAL FEEDBACK

No Feedback Reaction (0)

If the teacher makes no response whatever following the student's answer to the question, he is coded for no feedback reaction (0). This means that he makes no verbal response to the pupil and does not communicate affirmation or negation by shaking his head in response to the answer. Instead, he merely moves on to something else, perhaps by starting to make a new point or by asking another student a question. Most coders will be surprised to find that this category is used much more often than they had expected. It frequently happens that the teacher makes no feedback reaction at all to the student's answer, especially in fast-moving question drills where he is pushing to get correct answers in an impersonal fashion, without paying attention to the individual pupil giving the answer.

In addition to the obvious condition of no feedback reaction outlined above, where the teacher says and does nothing in reaction to the pupil, one special type of teacher reaction is also coded in this category. This occurs when the teacher repeats the pupil's answer in a quizzical manner without indicating whether he considers it to be correct or incorrect. This reaction may frequently occur when the teacher is asking the students to guess, give opinions, or make predictions about something. In such instances he may reply to the student's answer ("He's going to go home and tell his mother") with an ambiguous response ("You think he'll go home and tell his mother?"). Unless the teacher's feedback reaction is further elaborated to provide affirmation or negation or some substantive answer to the pupil, it is coded as no feedback reaction.

Process Feedback (PCSS)

The process versus product distinction introduced previously in the discussion of level of question is also used in coding the level of teacher feedback. Process feedback is coded under PRCS, while the following three categories refer to product feedback (simply giving the answer in one way or another). Process feedback is coded when the teacher goes beyond merely providing the right answer and discusses the cognitive or behavioral processes that are to be gone through in arriving at the answer. In other words, he reviews the question or problem with the student at length, telling him how to go about responding to it and not merely what the correct answer is. Process feedback occurs most frequently following errors, when the teacher explains the reasoning processes to be gone through to arrive at the correct answer or explains the erroneous processes followed by the student to arrive at the wrong answer. Process feedback may sometimes follow correct answers, as when the teacher elaborates on the response to verbalize the process knowledge it represents ("Yes, we know that we should use a capital letter since it is a proper name, and all proper names begin with capital letters."). Teachers may provide process feedback by simply answering a process question, since by definition a process question requires a process answer. Other than this special situation, however, process feedback will usually require elaboration upon the answer to a question.

Gives Answer (GIV ANS)

This category is used when the teacher gives the student the answer to the question, but does not elaborate sufficiently to be coded for process feedback.

The category is used only when the pupil has given a wrong answer or has not answered the question. When the teacher gives an answer to a process question it is coded as process feedback. Otherwise, any situation in which the teacher provides the answer to the question to which he has asked is coded as gives answer (GIV ANS). Usually this will correspond to product feedback following product questions, although occasionally giving the answer to choice questions may also be coded here if the student does not take a guess and try to answer the question himself.

Asks Other (ASK OTH)

If the teacher does not answer the question himself but instead asks another pupil to answer it, the feedback is coded as asks other (ASK OTH). This category is coded regardless of the level of question or feedback involved (i.e., feedback to process questions is still coded under asks other if the teacher asks another student to provide the answer). Sometimes the teacher will ask another student very explicitly to answer the question that could not be handled by the first ("Johnny, can you help Mary?"). However, this need not be so explicitly stated for asks other to be coded. Whenever the pupil does not answer a teacher question and the teacher moves to someone else in order to get the answer to that same question, the teacher's feedback reaction is coded for "asks other."

If the teacher asks a question which has several right answers, and he gets a right answer from one student, gives feedback, calls on another student and gets another right answer, etc., this situation should be coded as several new questions independent of each other. Do not code "ask other." Therefore, the designation ASK OTH can only be coded after a wrong answer.

Call Out (CALL)

The call out category is used when another student calls out the answer to the question before the teacher has a chance to act on his own. This category is coded regardless of the level of question asked; if another pupil calls out the answer to the teacher's question before either the first student or the teacher himself can provide that answer, the feedback category call out (CALL) is coded. Usually this will mean also coding a response opportunity for the pupil who called out the answer, provided that the teacher makes some individual response after he calls out the answer. In any case, the feedback coded for the first student is CALL.

SUBJECT MATTER CHECKLISTS

The subject matter checklists have been added to the first coding sheet in order to facilitate the writing of the standardized tests which will be administered to all the students in the junior high study. In form they are simple checklists, and the coder should check any activity which appears during the class hour on these checklists. An attempt has been made to include the main topics for English and for math at the seventh and eighth grade levels. At the bottom of each box, however, it may be noted that there is a line titled "Other"; the coder should use this line whenever necessary, specifying what the activity is if it does not fit into any other categories. Common sense should be used in these categories in that if the teacher merely mentions in passing something that the students should remember, that topic should not be checked, For example, if a teacher gives a composition assignment, and as a part of his assignment cautions the class to remember the punctuation and capitalization rules which they have studied, the coder should check composition; he should not check punctuation and capitalization under grammar, because the lesson did not truly deal with punctuation or capitalization. There was merely a mention made of this topic.

STUDENT INITIATED QUESTIONS AND COMMENTS

This section is used to cover public response opportunities that are initiated by the student rather than the teacher. They may be in the form of a question or a comment. They are similar to other response opportunities in that they are dyadic teacher/student interactions which are public and monitored by the rest of the class. However, they are not introduced by the teacher and do not involve the student responding to a question posed by the teacher. The SIC and SIQ codings are tabulated separately in order to keep them distinct from the normal type of response opportunity in which the student answers a teacher-posed question.

There is one distinct type of student initiated comment or question which will not be coded in this section; it is a new behavioral designation in the junior high coding system called "bait." If the coder observes a student initiated comment or question which is obviously going to require a disciplinary response, and which was done in order to "get to" the teacher as much as possible, this coding system requires that such an incident be coded on the dyadic contact page in the behavioral section. A more detailed description of such a incident is included in the behavioral section of this manual.

Generally speaking, SIC's and SIQ's will deal with academic matters in at least some way. They are meant to be public in nature and are said for the entire class's hearing. The SCC (Student Created Contact) (which will be explained later) is more personal in nature and actually meant only for the teacher's hearing although many of them are indeed heard by the entire class or most of it. Another mode of distinguishing SIC's and SIQ's from SCC's is the physical proximity of

teacher and student. An SCC will probably occur with the teacher and student in close physical proximity and a SIC or SIO will usually occur with some distance between the two people involved. It is the responsibility of the coder to make the best possible judgment in distinguishing between these two coding situations based on evaluating the above named factors.

Student # M or F

When a student initiated question or comment occurs, the coder first of all identifies the student, locates the student's number on his seating chart, and enters it in the appropriate male or female column under the section labeled STUDENT NUMBER.

Question or Comment (QUES/COMM)

The coder must next determine whether the student initiated verbalization was a question or a comment, and he checks the appropriate column. One or the other of these two categories must be checked.

Call Out (CALL)

The student may have raised his hand requesting permission to talk, or he may call out his verbalization without permission. If the student calls out, check the CALL column. If he is given permission to speak, then leave this column blank.

Relevant (REL)

Relevant is coded if the question has to do with the topic under discussion at the time, or if the question has to do with procedures for accomplishing the assignment or activity which is going on at the moment. For example, if the class

is preparing to do a math assignment and a question arises about the number of problems to do, the procedure for working a particular problem, or the time that the assignment is due, these would be considered relevant.

Irrelevant (IREL)

Irrelevant questions would be any which were not about the current topic. If the class was doing a math assignment and a student asked what time school would be dismissed for the day, the question would be coded as irrelevant (IREL).

Praise and Criticism (+ -)

Praise (+) and criticism (-) columns are reserved for coding the teacher's positive or negative evaluation of the student's question. An example of praise would be, "That's a good question; I'm glad you asked that." Criticism would be coded if the teacher responded, "That's a stupid comment. You didn't think that through."

In the praise and criticism columns, praise and criticism feedback as used in the student initiated question and comment boxes refer to the content of the answer, not behavior. If the teacher gives praise or criticism referring to the student's behavior in initiating his question or comment, code it on the second page under behavior related contacts.

Ignore (IGNOR)

The teacher makes absolutely no response, either verbal or non-verbal, to the SIC or SIO.

Accept (ACCPT)

The teacher simply affirms or acknowledges the student's SIC or SIO.

Not Accept (NACPT)

When he does respond to the question, he may not accept (NACPT) it into the discussion, or otherwise refuse to entertain it. The teacher might say, "We aren't talking about that now," or "Let's stick to the subject."

Feedback (FDBK)

The teacher may respond to the student initiated question or comment with a brief answer of a few words or a short phrase. This is coded (FDBK). An example of a feedback response would be the student question, "What page are we on?" and the teacher's answer, "Page six." The feedback category includes "product feedback" in the original sense of the elementary coding system.

Process Feedback(PRCS)

Process feedback (PRCS) occurs when the teacher not only responds to a student's question or comment, but elaborates on it to some degree, going through the steps involved in reaching that decision or in some way explaining the basis for the response. During a lesson on sentence structure, a pupil may volunteer a sentence which he has composed. If it happens to fit into the lesson at that point and the teacher allows his student initiated comment, he might respond to the example sentence by saying, "That's fine, Johhny. You have remembered to use a capitalized word to begin your sentence, to use a semi-colon between two independent clauses, and to end your sentence with terminal punctuation or period. You have applied the rules of good sentences which we have been discussing today, and that's fine." In this case, the coder would code praise (++) as a response and he would also code process feedback (PRCS).

The last two categoires are set off from the other feedback possibilities because they deal with new directions the teacher may take with a student initiated comment or question.

Redirect (RDRCT)

Redirect (RDRCT) is checked when a teacher receives a student initiated question and repeats the question, calling on another pupil in the class. The teacher redirects one student's question to another student. Redirect will almost always occur in response to a student initiated question.

Integrate(INTEG)

The coder checks integrate, (INTEG), if the teacher takes a student's question or comment and builds on it, weaving it into his ongoing discussion or into the next response opportunity. Integrate may occur after either a student initiated question or comment.

Note that there must always be at least one check mark in the feedback columns of the SIC-SIQ box. There is, hopefully, no instance where at least one form of feedback would not apply to the interaction.

CLASSROOM FORMAT

This section has been added to the junior high coding system in an attempt to get at the context of various classrooms. Listed are a number of formats which the class may take on. The coder will usually deal with this section at the end of the hour by coding classroom format in terms of the number of minutes spent in each individual format. A common sense decision must be made in terms of not coding fractions of a minute. If the teacher says, "Class, there is too much talking today," it should be coded "1". If he goes into an extended disciplinary episode lasting more than a minute, this should be coded to the nearest whole minute. You will never code less than one minute.

It is possible that a teacher may use one particular format in several distinct episodes during the class period. A math teacher may send students to the board several times during the class period to work problems; in this case, the coder will note the number of minutes of each individual episode, sum them, and place the total at the right hand edge of the box. Each classroom format used more than once should have the sum of the minutes placed at the right hand edge of the box.

Peer Tutor

The first classroom format shown is PEER TUTOR. This is coded when a teacher assigns one usually high achieving student to help another or perhaps two or three other students who need extra help.

Small Group w/ Teacher Contact, Small Group w/out Teacher Contact (SM GRP/TC, SM GRP/NT

Teachers also sometimes break their classroom up into small groups. The classroom format box contains two small group designations: SM GRP/TC and SM GRP/NTC. The distinction is made on the basis of teacher contact or absence of teacher con-

tact. It should be remembered that as soon as a classroom breaks up into small groups, the coder will immediately change his academic response opportunity sheet, begin a new one with "Small Group" checked at the top and the group members' numbers noted on the appropriate line. As soon as the small group format ends, he may return to the first sheet he was using, or he may begin on another response opportunity sheet checking "General Class."

Board Work (BOARD)

The next category is BOARD; it refers to board work when the teacher of a math class, for example, sends pupils to the board, perhaps to work homework problems so that the class may check their work.

Individual Seatwork (IND SEAT)

Individual seatwork (IND SEAT) is noted when the teacher gives an assignment and has each member of the class work on it by himself at his own desk. It is a common assignment shared by most, or all, of the class; this is in contrast to the individualized, self-paced format discussed later.

TRANSITION

Transition time is that time which is within the class period, potentially available as teaching time but is not utilized by the teacher although he is present in the classroom. This time is typically characterized by disorder, minor physical aggression incidents, socializing, etc.

BS

The category BS will be coded anytime the teacher is just visiting with the class, talking on some non-academic subject. For example, the math teacher may come in on Monday morning and spend the first ten minutes of the class

period talking about the junior high football game the previous Friday, the win-loss record of the team, the players on the team, the plays used in the game, etc. This would be coded as BS time. The coder should not code BS time as student-initiated comments, academic response opportunities, etc.; he only notes the number of minutes spent on this non-academic activity. Finally, the coder should only code BS when at least one minute of diversion occurs. A teacher's passing comment at the beginning of the class such as "Wasn't that a good football game Friday night? I hope you all got to see it," would not be coded as BS because of its brevity. It is only when significant amounts of classroom time are spent in this way that we need to know it.

Group Discipline (GRP DISC)

Group discipline (GRP DISC) is the next category; the coder should make an evaluation of the amount of time for this category which the teacher spends in disciplining the entire class at once. For example, on a day when a class is particularly restless, the teacher may temporarily leave the subject matter he had planned for the day and spend five minutes lecturing the class for lack of attending behavior. This would be coded as group discipline time.

Lecture or Demonstration (LEC/DEMO)

Lecture/demonstration (LEC/DEMO) is probably the most common classroom format. Included in this section should be a summary of the time the teacher spends in lecturing the class or in demonstrating the points of a lesson. A math teacher , for example, might teach a lesson on square roots. He would begin with a lecture explaining what a square root is and the operation of taking a square root. He then might demonstrate on the board the actual steps involved in computing a square root. All this time would be noted under lecture-demonstration.

Discussion (DISC)

Discussion (DISC) is the next classroom format. Time coded as discussion in the classroom should be those periods of time characterized by an exchange of questions and answers between teacher and students. The coder will note that there is an asterisk by the small group teacher contact designation and also one by discussion. These are the two classroom formats which will always require academic response opportunity coding. Small group with teacher contact will be coded on a page which is designated "small group" at the top, with the small group member numbers listed in the appropriate blank. Discussion will be on a separate page with "general class" checked at the top of the page. However, it should be noted that the distinction between lecture/demonstration and discussion is not always a clear one. It is highly possible, particularly in a math class, that a teacher may be writing on the board, demonstrating a particular type of problem, and lace his lecture with occasional academic response opportunities. These response opportunities must be coded in the public response opportunity box, and it is up to the coder's individual judgment to decide whether to code the format as lecture/demonstration or discussion. The coder should judge whether the major part of the format is more lecture/demonstration in nature or more discussion oriented, and code the format box accordingly.

Drill

Drill should be coded when a teacher sets up a classroom format which allows the student practice in applying something he has learned. If a math class is reviewing multiplication and the teacher goes around the room having each pupil recite one particular part of a multiplication table, this would be time devoted to drill.

Special

The category SPECIAL is included to cover classroom activities which do not fit into the other categories. When the coder uses this designation, he should make a note of the particular action. This is accomplished by placing an asterisk by the "special" line and indicating at the bottom of the page what the special activity was. An example of a special activity might be an English class which divides into small groups in order to develop and present a program such as pantomime or puppet show.

Organizers

The category "organizers" refers to the time a teacher uses in shifting the class from one classroom format to another. It may be that he has to spend five minutes arranging the class into small groups. If this is the case, then the coder would place a "5" after organizers.

Lost Time

Lost time refers to those blocks of time within the classroom period over which the teacher has no control. Lost time, for example, would include such events as a fire drill or an announcement over the public address system. It should be remembered that the lost time total is used in figuring the Total Teacher Control Time, recorded in the space at the top of the page. At the end of the hour, the coder takes the length of the class, subtracts the sum of all the lost time episodes within that classroom hour, and places the net total number of teacher control minutes in the blank at the top of the page.

Individual Self-Paced Work (IND SELF-PACD)

The next category is individual self-paced work (IND SELF-PACD). In this classroom format, each student might for example have his own folder of work

which the teacher feels is appropriate to his particular level. The coder will keep track of the number of minutes within the class spent on individual self-paced work.

Out Time (OUT)

The category, OUT, refers to time which is (a) within the class period, (b) potentially available to the teacher for teaching time, and (c) characterized by lack of teacher-class contact by the teachers' own wishes. It would also be coded if a teacher leaves the room during the class period.

Test

Periodically there will be a test administered during a class period being coded. The number of minutes spent on a test, quiz or exam should be recorded on the last line of the classroom format box. This is the only place a test is coded; do not code dyadic contacts, SIC's, SIO's, TAC's, and SCC's, or academic response opportunities even if they do occur during a test.

Other

"Other" is coded when none of the above categories is appropriate. It is not necessary to specify what "other" is.

PEER TUTOR IDENTIFICATION

The small box below the classroom format box is labeled peer tutor identification. (PEER TUTOR IDENT) It is used to identify the particular students involved in a peer tutor relationship. Each pairing will be indicated in the line/line with the tutor always being named first and identified by his student number, and the student number after the slash referring to the tutee. If there is more than one student being tutored, the coder should place the student tutor number in the first blank, place a tutee's number in the second blank, then drop down to the next line and put a check mark in the student tutor blank and enter the number of another tutee in the second blank. He should do this as many times as is necessary to code the group being tutored.

DYADIC TEACHER-STUDENT CONTACTS

Dyadic teacher-student contacts differ from response opportunities in that the teacher is dealing privately with one pupil about matters idiosyncratic to him rather than publicly about material meant for the group or class as a whole. The latter distinction is the key one, since teacher-student dyadic contacts are not always private (the teacher may talk in a loud voice or address the pupil from across the room). Such interactions are nevertheless coded as teacher-student dyadic contacts as long as they involve matters idiosyncratic to the student and are not public questions (response opportunities).

Dyadic teacher/student contacts are divided into student created contacts, teacher afforded contacts, and behavior related contacts. They are further subdivided according to whether they deal with content or procedures, whether they are personal or work related, and according to the teacher's behavior in such contacts.

STUDENT CREATED CONTACTS

In dealing with student created contacts, the first necessary piece of data is the coding of the student number of the student involved in the contact under M or F in the student # section. Next, the coder must decide whether the contact is work related (having to do with either context or procedure) or personal (relating to procedure or experience sharing). If in doubt, keep the work-related area clean by coding SCC, personal, rather than SCC, work-related.

Whether it is possible to determine or not (i.e., audible or inaudible) always code Context or Procedure under SCC, work. The convention is to code PRCD whenever you cannot determine which actually occurred. If the code is PRCD (under SCC) don't code anything else--not even Brief and Long--this will keep only Content contacts in the Brief-Long-Delay-FDBK-Process columns.

In a SCC-work, always code brief or long, even if it is an audible contact, and you can code the feedback in the audible categories. This will permit checking our previous assumption that process feedback is long and product feedback is brief. However, if the teacher delays a SCC-work, it is not necessary to code brief or long.

Work-related

There are two types of work-related, student-created contacts: context related and procedure related.

Examples:

1. content related

   shows work after finishing
   asks for help with problem
   wants to know how to spell a word
   wants to know if answer is right

2. procedure related

asking what page to do, or what problems
asking permission to read library book
asking for repetition of assignment
asking if paper should be titled

When a student-created, work-related contact occurs, the first decision to make is whether it is content-related or procedural and check the appropriate blank. If the coder cannot distinguish here he should check procedural and thereby keep the content category clean. When coding "Procedure," no other codings are needed.

Praise and Criticism (++, --)

Praise (++) should be coded whenever the teacher makes a positive evaluative comment to the student regarding the quality of his work, or the effort he is expending.

Examples;

"You're doing very well. Keep it up."
"I'm very pleased to see you working so hard."
"You got all your math problems correct. That's excellent."

Praise comments are usually said with feeling and often with some affect such as a smile, a pat on the shoulder, etc.

Criticism (--) should be coded whenever the teacher makes a negative evaluative comment to the student regarding the quality of his work and the effort he is expending. This negative evaluation goes beyond mere disagreement. He may disparage his ability or motivation.

Examples:

"You're not trying."
"I told you to do the exercise on page 11. That's page 21."
"Your papers are always messy. You just don't care."

Note that praise and criticism columns are coded only when they occur. However, there will always be some form of coding in the following, six-column section.

These columns deal with the teacher's response to the SCC. It may be seen that the six columns are divided with three on either side of the line. This line distinguishes codings to be made when the teacher's response is inaudible, from codings to be made when the exchange is audible to the coder.

The inaudible label above the brief and long columns is added for this coding because frequently the individual teacher/student interaction that occurs in the dyadic contacts will be carried on in hushed tones across the room from the coder where he cannot hear the content of the interaction. In such cases, where he is unable to code the nature of the teacher's feedback because he cannot hear it, the coder merely notes the brevity or length of the interaction, and the fact that it was student created by virtue of its being coded in the SCC box.

Brief-Long

Even though the coder cannot hear the exchange, he can observe whether the teacher's response consists only of two or three words, in which he would code BRIEF, or a more extended verbalization, in which case he would code LONG. The Brief and Long columns have been added in order to capture some information, even though the SCC is not audible to the coder.

When audible, the manner in which the teacher gives feedback, aside from evaluative comments, may be distinguished in any one of the following ways.

Delay

This column should be coded whenever a student attempts to initiate contact with the teacher which is obviously related to work (e.g., he approaches the teacher's desk with his workbook, or a sheet of paper) and the teacher is occupied or hasn't time at the moment to attend to the pupil and hence, puts him off. The teacher may tell him to return to his seat that he (the teacher) will get to him later, or to wait his turn in line, etc.

Example:

> A student stands by the teacher's desk with a book in hand. The teacher is preparing a note to go to the office. The teacher may look up and say, "I'll get to you in a minute. Please sit down." Or the teacher might simply wave the student away and point to his chair.

Feedback (FDBK)

Feedback should be coded when the interaction between teacher and student deals with producing a specific answer to a specific question. It does not require verbalization of processes by which the answer was arrived at. By the nature of this type of feedback, it will be of rather short duration. For example, the teacher may glance at the workbook the pupil is holding and say "Good!". In this case, "Good!" would be coded as praise (++) and product feedback (FDBK). If the teacher responds to a pupil's question by saying "Page five". or "In your workbook," the coder would just check feedback (FDBK) without checking praise or criticism, since neither of these occurred.

Process (PRCS)

Process is coded when the interaction exceeds that of product feedback in that the teacher verbalizes the process by which a pupil arrives at an answer or the steps in the work he had to do, or in some way not only gives

the answer but an analysis of how it was arrived at. For example, the teacher may respond to a student by saying, "I think you'll find it easier if you use the vocabulary in the back of the book. The words that you need are found there." This is coded process feedback. he has told the pupil something about the way the assignment is to be done; and, he has given him an analysis of the steps involved in doing the assignment.

PERSONAL-RELATED

For student created contacts of a personal request nature, we will merely code feedback given to the student by the teacher. There are three possibilities: GRANT is coded when the teacher permits the student to do what he requested; DELAY is coded when the teacher asks the student to hold his request until some later time; and non-grant (NGRNT), is coded when the teacher does not permit the student's request. To repeat an earlier section, the coder must take care in distinguishing between SCC's personal and SIQ's. The two conditions to be determined are (a) is the student's verbalization personal in nature, is it meant only for the teacher's hearing, and (b) is the student in close physical proximity with the teacher? Although these distinctions are not iron-clad ones, they will hold in general, and will help make the coding distinctions.

TEACHER AFFORDED CONTACTS

Interactions are coded as teacher afforded if the teacher gives feedback about work when the pupil has not solicited it (the teacher either calls the student to come up to his desk or goes around the room making individual comments to the students). Created contacts are not planned by the teacher and occur solely because the student has sought them out; afforded contacts are not planned by the student and occur solely because the teacher initiates them. If the coder cannot determine whether a dyadic contact is student-created or teacher-afforded, code it as a TAC.

The first decision to be made in a teacher afforded contact is the identification of the pupil and the placing of his number in the appropriate M or F blank under Student Number.

Praise & Criticism (++ , --)

Praise (++) should be coded whenever the teacher makes a positive evaluative comment to the pupil regarding the quality of the work or the effort he is expending.

Examples:

"You're doing fine."
"That's good. Keep it up."
"I'm very pleased to see you working so hard today."

Praise comments are usually said with feeling and often with some affect, such as a smile or a warm tone of voice.

Criticism (--) should be coded whenever the teacher makes a negative evaluative comment to the pupil regarding the quality of his work or the effort he is expending. This negative evaluation goes beyond mere disagreement.

The teacher will disparage his ability or motivation.

Examples:

"You're not trying."
"Your papers are always so messy; you just don't care."

Note that praise and criticism are coded only when they occur.

The next section titled "Inaud" (inaudible) is to be used only in the event that the coder sees a teacher afforded contact occur but, because of the low tones of voice or the distance away from the coder when it occurs, doesn't hear the actual exchange.

Brief-Long

In such cases, where he is unable to code the nature of the teacher's feedback because he cannot hear it, the coder notes the occurrence of the interaction by coding its brevity (BRIEF) or length (LONG) and, by placing the codings in this box, notes that the contact was teacher afforded.

Observe (OBSV)

The next three columns deal with the form of feedback the teacher gives to the student when the exchange is audible. Observe (OBSV) the first of these three columns, is checked when there is no verbal interaction at all between the teacher and the student. If the teacher moves around the room, pausing to look at the individual seatwork of a pupil but doesn't say anything at all to him, then observe (OBSV) is coded.

Product Feedback (FDBK)

Product feedback (FDBK) is coded if the teacher pauses, looks at the student's work, and says, "Yes, that's right" or "You're finished," or gives

some other factual piece of information. Product feedback is usually a fairly short exchange.

Process Feedback (PRCS)

Process feedback (PRCS) occurs when the teacher goes through the rationale or the steps involved in arriving at a certain answer. For example, to continue the previous illustration, the teacher might pause, observe the student working at his seatwork and say, "Yes, that's correct, and I'm glad you remembered to use an introductory sentence, a middle, and a conclusion when you wrote your paragraph. That's a good job." In this case, praise (++) would be coded and also process feedback (PRCS).

Procedure (PRCD)

The last of the teacher afforded contacts is procedure (PRCD). This is not related directly to the work going on in the classroom in terms of the subject matter. This column covers such instances as when the teacher asks the student to collect a set of papers, or to pass out books, for example. Another instance where procedure (PRCD) would be coded might be if he asks a student to remind him ten minutes before the period ends so that he can discuss an upcoming assembly program. These are procedural kinds of considerations; they deal with the procedural aspects of the classroom instead of with the subject content. Compared to the previous coding system, this column includes favors asked by the teacher, management asked by the teacher, and we are no longer coding when she thanks the pupil. When coding "Procedure," no other codings are needed.

In Conclusion

Brief and Long are always coded in conjunction with FDBK and PRCS. If observe is coded, brief and long need not be.

The distinction between Teacher Afforded Contacts which are procedural and Behavior Management Contacts is that procedural contacts deal with some type of errand or organizing which the teacher wishes to accomplish. He may rearrange the seating, send students to the office with notes, to the library for a book, etc. These are tasks the teacher wants done which do not imply "fault" on the part of the student.

Behavioral management in Behavior Contacts category imply mild corrections or intervention in a student or students' behavior. He may move students because they are talking rather than for his organizational convenience. If the coder is unsure whether to code Teacher Afforded procedure or Behavior Management, code procedure.

BEHAVIOR RELATED CONTACTS

Behavior contacts are coded whenever the teacher makes some comment upon the pupil's classroom behavior. They are subdivided into non-verbal intervention (NVIT), management (MGMT), criticism (--), and threat (THRT). There are twelve specific behaviors. The list of these is found just to the right of the behavior related contact box on the coding sheet. The first four behaviors are non-critical ones; in this coding system, this means that they will be coded only if the teacher notices and reacts to the occurrence of one of them. From #4 on through the remainder of the list, the behaviors are critical ones. This means that they must be coded, whether or not the teacher reacts to them. In the instance where a critical behavior occurs and there is no teacher reaction to it, the coder will code the child # column, the appropriate behavior #, and then draw a horizontal line across the rest of the columns. This indicates that the behavior did occur, and that the teacher did not respond. In a few rare instances, the coder may have coded the behavioral incident as described above, and only then would the teacher react to the incident, after a delay. In this case, it would be necessary to erase the line and code his reaction and error according to the specifics of the situation.

The behavior related contact section in this coding system is slightly more global than it was in the elementary coding system, in that we are including any behavioral comments made by the teacher in conjunction with a student initiated comment call out, for example, or a student initiated question call out. Behavioral criticism is teacher afforded in the sense that the pupil usually does not want and does not expect the interaction,

and the teacher chooses to single him out for comments. The conditions for coding this category are: (a) the teacher singles out the pupil for comment upon his classroom behavior; (b) the interaction concerns his behavior; it does not involve praise or criticism of the content of the student initiated question, but rather would involve criticism of the fact that the pupil called it out.

Overall, behavioral criticism may occur in work-related and in procedural contexts. Most of the evaluation in this category will occur in connection with the pupil's attention, cooperation, and performance of classroom rituals, although occasionally, there will be comments made in relation to his academic work. In the latter case, these evaluations, which refer to the student's general performance, will usually be made at the conclusion of a lesson.

Student #, M or F

The first piece of data coded under behavior related contacts is the student's number. This involves identifying the student and placing his number in the appropriate column according to sex.

Behavior #

The next column requires the identification of the behavior. The appropriate number for this column is selected from the list at the right, and if it is necessary to use Number 11, which is Other, the coder should specify what the behavior was. Code the appropriate behavior number under BEH #. The next five columns deal with the teacher's feedback to the pupil's behavior.

NT SN

Not seen is coded when the teacher has not seen a critical incident. Remember, it must be a critical behavior which is missed by the teacher in order to code not seen. No other codings are necessary when this column is checked.

IGNOR

Ignore is coded when the teacher clearly sees an interaction but has decided to ignore it. No other codings are necessary.

Non-Verbal Intervention (NVIT)

Non-verbal intervention (NVIT) is included in this sytem to account for those situations in which the teacher takes steps to correct a behavioral problem; however, he does so without disrupting the whole class. He may move close to a pupil who is talking; he may tap a student on the shoulder who is daydreaming and point to his book; or he could turn a student around in his seat when he is facing the wrong way and looking at his neighbor. These are cases where the teacher does intervene, but does so inaudibly with a minimum of disruption.

Management (MGMT)

This category and the following two refer to teacher behavior in singling out for comment a pupil engaging in inappropriate or undesirable classroom behavior. It is always verbal. Usually teachers' behavior managements will occur in situations in which the pupil is doing something that is not necessarily or always prohibited but which is troublesome at the moment. In such instances

the teacher will single out the student to inform him that his present behavior is inappropriate, but will do so without communication of rejection or anger as in criticism. Examples of this are as follows:

> "Johnny, you're getting too noisy."
> "Try to figure out the answer on your own -- don't copy off our neighbor."
> "Johnny, you can talk to Mary if you want to, but stay in your seat."

In a junior high math class, a coder observed a girl turned around in her seat, tapping the boy behind her on the arm with her ruler. After a moment, the teacher quietly and with a not unfriendly look on his face, said, "That looks like a good one for my collection." This incident should be coded MGMT; there was no personal attack, anger or criticism in the teacher's contact and it was only a very mild form of disciplinary control.

Criticism (--)

The lines of demarcation between managements (MGMT) and criticisms (--) are sometimes difficult to discern. Sometimes the same or nearly the same words could be coded in either category, with the decision being made on the basis of the non-verbal expressive and gestural components of the teacher's message. Behavioral instructions given to the pupil merely in the interest of information or classroom management and without any connotation of warning or criticism would be coded as management (MGMT).

Threat (THRT)

If, in the math class illustration given above, the teacher had said, "That looks like a good one for my collection and I will take it away from you permanently if I see it again today!", the coder would code a threat (THRT).

BEHAVIOR-RELATED CONTACT ERRORS

Aside from wanting information on the type and frequency of behavior-related contacts in the classroom, we are also interested in obtaining a measure of the effectiveness of the teacher's method of handling these behavior-related contacts. For this reason, we have chosen to record certain errors which the teacher may make in the course of halting inappropriate classroom behavior. These can be categorized as target, timing or overreaction errors. The last five categories in the behavior-related contact section exist for the purpose of recording these contact errors.

No Error (NOERR)

The no error (NOERR) column should be checked whenever the teacher halts an inappropriate behavior without making one of the above mentioned errors in dealing with a misbehavior. If the coder is not sure that a target or timing error has not occurred, he should check the "??" column. A more detailed description of this coding option will be discussed in the "??" section.

Target Error

A target error (TARG) is coded when the teacher reprimands the wrong student for a misbehavior which has obviously been committed by another student or students in the classroom. For example, the room is quiet until Jane begins whispering to Mary. Mary continues the conversation, and Jamie leans over to listen. The teacher is annoyed by the noise and says, "Jamie, turn around and stop all that talking."

A target error is also coded when the teacher makes an attempt to halt a minor misbehavior while ignoring or allowing a more serious misbehavior

to continue. Therefore, if two boys in the back of the classroom were allowed to engage in a paper wad fight while the teacher reprimanded Mary for whispering, a target error should be coded.

Timing Error (TIM)

A timing error is coded whenever a teacher delays correcting the student or students involved in a misbehavior until the effect of the reprimand is diminished. For example, Tom and Mary are whispering about after school plans. The discussion ceases and both go back to their seatwork. The teacher has been involved with another student's questions about the assignment. After completing her contact with the student she says, "Tom and Mary, stop your talking and get to work." Tom and Mary are understandably confused because they have been working for the last couple of minutes.

A timing error should also be coded whenever a teacher allows what is initially a minor misbehavior to escalate into something more serious before it is halted. Two kinds of examples are relevant to this type of timing error. The first occurs when a teacher is aware that a couple of students have stopped working on their assignments and have begun talking. However, before the teacher decided to act on this observation, the majority of the class has become involved in the socializing. The misbheavior has spread because the teacher did not stop it in its embryonic stage.

The second situation which can be associated with the concept of escalation is one which might be comparable to the following scenario: John and Dave are engaged in a heated debate about the ownership of a pencil. The teacher notices the activity but fails to react to it

immediately. After a few more interchanges between the two boys, Tom pushes Dave and a scuffle starts. Before the teacher intervenes, a full fledged fight has broken out. The teacher has committed a timing error because he did not stop the misbehavior before it became serious.

Not Observed

Occasionally, the coder will be busy coding other information prior to a behavioral episode and will not be able to gather sufficient evidence to judge whether or not a target or timing error has been made. In such cases a check should be placed in the "??" column. This coding convention should be used only in the case of target or timing errors, since the coder can usually tell if an overreaction error has been made without having observed the total interaction.

Overreaction (OVRT)

An overreaction error (OVRT) is coded when the teacher either responds too severely to a misbehavior or dwells on the criticism of the misbehavior beyond the level necessary to get the point across.

STUDENT BEHAVIORS LIST
(DEFINITION OF TERMS)

The first four behaviors listed are termed non-critical ones in the behavior list, while the remaining ones are critical. In terms of the coding system, this means that if one of the first four occurs and the teacher does not react to it in any way, either verbally or non-verbally, then we do not code it. If any of the remaining ones occur, it must be coded, even if the teacher does not react to it. The critical behaviors are deemed significant enough that we should have a record of them, even if the teacher does not seem to note the occurrence. As noted before in the Behavior Contacts section, in the event that one of these behaviors does occur and there is no teacher reaction, code the child number under M or F, the behavior number, and then draw a horizontal line across the rest of the columns for that line, indicating thereby that there was no teacher reaction.

0--Not Observed

Not observed includes all behaviors which caused the student to be disciplined, but which were not seen by the coder.

Ind Typ Inapp

The Independent Typically Inappropriate category (Ind Typ Inapp) includes all non-work related behaviors which are criticized by the teacher, and are not social in nature or disruptive to other children. This includes wasting time, working on the wrong assignment at the wrong time, daydreaming, and anything else that the student does independently that is not disruptive.

Socializing

Socializing and especially social chatting are inappropriate behaviors that a student engages in with a peer which are not disruptive but definitely out of place at the time.

Late

Late is checked when a student enters the room after the bell has rung signaling the beginning of the class period. It should only be coded if the teacher disciplines the student for his tardiness.

Disrupt

Disruptive behavior refers to behavior a student engages in either independently or with peers which is noisy or disturbing enough to go beyond either Ind Typ Inapp or Socializing.

Sass/Defy

Sass/Defy occurs when a student mocks the teacher, openly defies him, talks back to him, makes faces behind his back and exhibits any behavior that can be considered grossly disrespectful. This is more extreme than compliance with a frown or a scowl, in which the student demonstrates his displeasure but complies anyway. Sass/Defy means a proactive effort on the student's part to respond negatively to a teacher's demands or requests.

Vagg

Verbal Aggression (Vagg) is an unfriendly initiation involving only words, not physical contact. The content of the message is obviously intended to hurt or anger the other person.

Pagg

If aggression involves both physical and verbal abuse, Physical Aggression (Pagg) should be coded.

Leave

If the student leaves the room without permission, the coder should code leave.

Contraband

Contraband refers to any item which the teacher makes clear is not welcome in his classroom, or confiscates on the spot. In the junior high math class example given earlier in this section, where the girl was tapping a boy sitting near her with her ruler, the coder should code Socializing, not Contraband. The difference here is one of degree, but the ruler is generally an appropriate item to have in a math class, and Contraband is used only for materials distinctly out of place in the classroom, such as a knife.

Bait

Baiting the teacher is a critical behavioral incident. It is usually timed to occur at a moment which maximizes the damage to or disruption of a lesson. Frequently, it is a seemingly innocuous verbalization and this enhances the strength of its effect.

Example: The teacher has planned and presented his lesson very carefully up to the point where he will solicit questions and discussion. From his first volunteer, he expects a response indicating a high degree of comprehension and integration. The kid asks to sharpen his pencil;

the entire class dissolves in laughter; and he is then left with the task of settling the kids down and reestablishing the lesson.

Although this type of behavioral incident may appear on the surface to be a public response opportunity, or even a student-initiated question or comment, the intent of the incident requires that it be coded as behavioral. Care should be taken to recognize these particular incidents and code them as behavioral in nature since this is the main intent of the exchange.

Sleep

If a student falls asleep during the class period, the student's number or a check in the M/F column should be recorded.

SOCIAL CONTACTS

The final box on the coding sheet is to be used for purely social contacts. This section is provided for the coding of incidents which do not belong in the SIC-SIQ box because they are not academic in nature, and do not belong in the SCC and TAC boxes because they are public in nature. Therefore, in order not to litter the other sections, the Social Contacts box has been added to the system.

Student # M or F

Fill in the child's number in the appropriate column if he is a target student; if not, check the M or F column.

Teacher Afforded or Student-Created (TA or SC)

Check TA (teacher afforded) or SC (student-created) according to whether the socializing was begun by the teacher or a student.

Feedback (AC or NA)

If the contact is teacher afforded, this last two-column section is non-applicable. If the contact is student-created, note that the teacher either accepted (ACPT) the comment or question by responding or acknowledging it in some way, or else he did not accept it (NACPT).

Reference Notes

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